

ZAK, Czesław

Water balance of the Kielce Voivodeship. Kwartalnik geol  
6 no.4:809-811 '62.

1. Świątokrzyska Stacja Terenowa, Instytut Geologiczny,  
Warszawa.

ZAK, Czeslaw

Tectonic profile of the Gory Pieprzowe Mountains. Kwartalnik  
geol 5 no.4:1002 '61.

1. Swietokrzyska Stacja Terenowa, Instytut Geologiczny, Warszawa.

ZAK, Czesław

Geological research and the economic development of the Gory  
Swietokrzyskie Mountains region. Przegl geol 10 no.8:388-392 Ag  
'62.

1. Swietokrzyska Stacja Terenowa, Instytut Geologiczny, Warszawa.

Zak, Cecylia

Adsorption of staphylococcal bacteriophages on bacteriological filters.  
Med. dozw. mikrob. 11 no.1:39-42 1959.

1. Z Zakładu Bakteriologii Państwowego Zakładu Higieny w Warszawie.  
(MICROCOCCUS PYOGENES,  
bacteriophage, filter adsorption (Pol))  
(BACTERIOPHAGE,  
of Micrococcus pyogenes, filter adsorption (Pol))

ZAK, CZESLAW

POLAND / Chemical Technology. Chemical Products and H  
Their Application. Ceramics. Glass. Binding  
Materials. Concretes.

Abs Jour: Ref Zhur-Khimiya, No 19, 1958, 65199

Author : Zak Czeslaw

Inst : -

Title : The Kelets Area as a Raw-Material Base for the  
Production of Binding Materials

Orig Pub: Cement. Wapno. Gips, 1958, 14, No 2, 30-33

Abstract: Described are the rich deposits, located in the  
Kelets area, of high-quality limestones and gyps-  
eous stone, which are the raw material for the  
production of cement, lime and gypsum.

Card 1/1

807/7419

[illegible]

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AFANAS'YEV, A.N., kand.tekhn.nauk; BASOV, N.I., kand.tekim.nauk; BELO-  
VITSKIY, A.A., inzh.; VESELOVSEIY, V.S., doktor tekhn.nauk, prof.;  
GORELIK, B.I., kand.tekhn.nauk; DOROMENKOV, I.M., inzh.; ~~ZAK, D.L.~~,  
inzh.; IVONIN, V.I., inzh. [deceased]; KLINOV, I.Ya., doktor tekhn.  
nauk, prof.; LEVIN, A.N., doktor tekhn.nauk, prof.; LEVIN, S.N.,  
kand.tekhn.nauk; LEPETOV, V.A., kand.tekhn.nauk; LEONT'YEV, N.L.,  
doktor tekhn.nauk, prof.; LOKHINA, P.I., kand.tekhn.nauk; MATVEYEVA,  
L.V., inzh.; MIKHAYLOV, A.M., doktor tekhn.nauk, prof.; MUDRIK, Kh.I.,  
kand.tekhn.nauk; PERLIN, S.M., inzh.; SALAZKIN, K.A., kand.tekhn.nauk;  
SIL'VESTROVICH, S.I., kand.tekhn.nauk; SOKOLOVSKAYA, S.I., kand.  
tekhn.nauk; AZHENKIN, A.A., inzh.; KHUKHRYANSKIY, P.N., doktor tekhn.  
nauk, prof.; SHEYDEMAN, I.Yu., kand.tekhn.nauk; YASHUNSKAYA, F.I.,  
kand.tekhn.nauk; POGODIN-ALEKSEYEV, G.I., doktor tekhn.nauk, prof.,  
red.; RYBAKOVA, V.I., inzh., red.isd-va; SOKOLOVA, T.F., tekhn.red.

[Handbook on materials used in the manufacture of machinery] Spra-  
vochnik po mashinostroitel'nykh materialam; v chetyrekh tomakh. Pod  
red.G.I.Pogodina-Alekseeva. Moskva, Gos.nauchno-tekhn.isd-vo ma-  
shinostroit.lit-ry. Vol.4. [Nonmetallic materials] Nemetalli-  
cheskie materialy. Red.toma A.N.Levin. 1960. 723 p.

(MIRA 13:7)

(Machinery industry)

(Nonmetallic materials)

SOV/138 -58-4-1/13

AUTHOR: Zak, D. L.

TITLE: Friction Products Made of Asbestos. (Friktionnyye asbestovyye izdeliya).

PERIODICAL: Kauchuk i Rezina, 1958, Nr.4. pp. 1 - 3. (USSR).

ABSTRACT: Friction products, made of asbestos, are used in various branches of industry, e.g. in the manufacture of brake cover plates, brake shoes, brake bands and couplings which are used in the coupling mechanism of cars, tractors, combines, aeroplanes, drillers etc. In 1957, 90.8% of all brake cover plates were moulded and rolled. Brake items manufactured from lower grade asbestos amounted to 36.3% of all manufactured brake bands. The Tambovsk Rubber - Asbestos Factory, and the Yaroslavl' Factory for Asbestos Articles have introduced a method for the simultaneous manufacture of adhesives and pastes which shortens the time of preparation considerably. A vacuum mixer which makes it possible to manufacture simultaneously adhesives and pastes, and also to dry them to the required petrol content, was made during 1957. Earlier investigations were carried out by the Central Research Laboratory for Asbestos Goods (TSNILAS) of the Ministry for Chemical Industry

Card 1/3

Friction Products Made of Asbestos.

SOV/139-58-4-1/13

(Tsentral'naya nauchno-issledovatel'skaya laboratoriya asbestovykh izdeliy (TSNILAS) ministerstva khimicheskoy promyshlennosti) on the manufacture of asbestos plastic pastes in covered mixers by the dry method, but did not give satisfactory results. At present, many organizations in the USSR and abroad are endeavouring to substitute the gluing of asbestos friction products to the metallic discs by fixing them with special adhesives. The TSNILAS, together with the Gor'kiy Car Factory (Gor'kovskiy avtomobil'nyy zavod) are further investigating these methods. The TSNILAS and the Central Research Institute of Railway Transport (Tsentral'nyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta) manufacture new non-metallic brake shoes consisting of asbestos fibre, a rubber binder and thermostable fillers. These new brake shoes will be tested extensively during 1958. Results of work carried out on the manufacture of asbestos fibres by the "wet" method show that these textile asbestos goods have the characteristics required by GOST and TU standards, and that their quality is equal to those made of ordinary asbestos fibres. Further research work of the TSNILAS, which

Card 2/3

Friction Products Made of Asbestos.

SOV/138 -58-4-1/13

will be carried out in conjunction with the Friction Laboratories of the Institute of Engineering of the Soviet Academy of Sciences (Laboratoriya treniya instituta mashinovedeniya Akademii nauk SSSR), concerns a new thermostable friction material "Retinaks". The Leningrad Asbestos Factory (Leningradskiy asbestovyy zavod) is working on the development of a new friction material "Frivanit" which does not require press forms. A 2.5 to three-fold increased output (compared with 1956) of these asbestos goods is envisaged for 1958.

Card 3/3

1. Asbestos materials--Production Applications      2. Asbestos materials--

ZAK, D.L.

Development of the asbestos products industry between the  
20th and 22d Congresses of the CPSU. Kauch. 1 rez. 20  
no.9:5-7 S '61. (MIRA 15:2)

1. Gosudarstvennyy komitet Soveta Ministrov SSSR po khimii.  
(Asbestos)

KADZHAYA, D.I., kand.tekhn.nauk; ZAK, D.Ya., inzh.

Efficient designs of reinforced concrete retaining walls.

Bet. 1 shel.-bet.no.9:400-403 S'60.

(MIRA 13:9)

(Retaining walls)

SLADKI, Edward; GROT-SWIEZAWSKA, Ewa; ZAK, Edward

On possible azulene therapy of chronic inflammations of the large intestine. Polski tygod.lek.15 no.21:784-787 23 Wy '60.

1. Z I Kliniki Chorob Wewnętrznych A.M. w Łodzi; kierownik: prof.  
dr nauk med. J.W.Grott.  
(CYCLOPARAFFINS ther)  
(COLITIS ther)

KOZAR, Zbigniew; SLADKI, Edward; Zak, Edward

Clinical aspects of chronic trichinellosis in people. II.  
Studies in patients with chronic diseases of the motoric  
system. Wiad. parazyt. 10 no.6:665-671 '64

1. Laboratory of Antropozoonoses of the Department of Para-  
sitology, Polish Academy of Sciences, and Department of  
Parasitology, Veterinary Faculty, Wrocław, Poland.



SHIYZAWSKA, Ewa; ZAK, Edward

Rare cases of goit. Pol. arch. med. wewnet. 34 no.4:481-488  
1962.

1. 2 I Kliniki Chorob Wewnętrznych Akademii Medycznej w Łodzi  
(Kierownik: prof. dr. n. med. J. P. Grott).

ZAK, E.G.; BESKOV, S.D.

Investigating the phosphates of certain organic bases for use  
as corrosion inhibitors. Uch. zap. MGPI no.146:25-40 '60.

(MIRA 15:4)

(Phosphate coating) (Organic compounds)  
(Corrosion and anticorrosives)

ZAK, E.G.; BESKOV, S.D.

Use of urea as inhibitor of atmospheric corrosion. Uch. zap.  
MGPI no.146:154-158 '60. (MIRA 15%)  
(Urea) (Corrosion and anticorrosives)

ACCESSION NR: AR4015695

8/0081/63/000/023/0355/0356

SOURCE: RZh. Khimiya, Abs. 23K87

AUTHOR: Zak, E. G.; Balazhin, S. A.; Baskov, S. D.

TITLE: The protection of steel parts with volatile inhibitors

CITED SOURCE: Uch. zap. Mosk. gos. ped. in-t im. V. I. Lenina, no. 181, 1962, 94-107

TOPIC TAGS: corrosion, corrosion inhibitor, steel corrosion, rust, volatile corrosion inhibitor, parkerizing, cold parkerizing, dicyclohexylammonium nitrite, ethanolamine carbonate

ABSTRACT: Cold parkerizing (rustproofing), which decreases the rate of atmospheric corrosion of machine parts, does not insure long-term protection against atmospheric corrosion. Cold parkerizing as a method of preliminary treatment of a surface can suitably be combined with other protective methods, especially with vapor phase protection. As vapor phase inhibitors, substances with low vapor pressure and a large induction period can be used, since the slow development of corrosion on a parkerized surface makes it possible for an inhibitor of low volatility to form a protective atmosphere and insure further protection of the parts. The

Card 1/2

ACCESSION NR: AR4015695

layer of iron phosphates which are formed on the surface of the iron during parkerizing absorbs the inhibitors and insures their further protective action, i. e., this film plays a role analogous to that of iron oxides and hydroxides. For protection against atmospheric corrosion of hermetically sealed steel parts with a complicated inner structure (welded edges, thread, etc.) the following inhibitors and methods of application are recommended: 1) introduction of inhibitors in small bags into the inner part of the objects; in this connection, the following inhibitors are recommended for vapor phase protection: a) a mixture of dicyclohexylammonium nitrite with ammonium carbonate (1:4) in a quantity of  $10\text{g}/\text{m}^3$  of object volume, and b) mixture of ammonium carbonate with sodium nitrite (1:1.5) in a quantity of  $20\text{-}30\text{g}/\text{m}^3$  of object volume; 2) introduction into the inner part of the object of paper saturated with solutions of the inhibitors, which assure not only contact but also vapor-phase protection; one can recommend kraft-paper saturated with a 5% aqueous solution of dicyclohexylammonium nitrite or a 10% aqueous solution of a mixture of dicyclohexylammonium nitrite with monoethanolamine carbonate (1:1.5) in a quantity of  $3\text{-}4\text{m}^2$  of paper/ $\text{m}^3$  capacity; 3) washing the walls of the object with a 5% alcohol-water (7:3) solution of dicyclohexylammonium nitrite. Inhibitory emulsions cannot be recommended for the protection of hermetically sealed steel parts since their protective properties appear only during aeration of the surface of the object. 11 ref. Authors' summary

Card 2/2

DATE ACQ: 09Jan64

SUB CODE: MM

ENCL: 00

188310

25078

S/081/61/000/010/011/029

B117/E206

AUTHORS: Zak, E. G., Beskov, S. D.

TITLE: Investigation of phosphates of some organic bases as corrosion inhibitors

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 1961, 288, abstract 10M225 (10I225). ("Uch.zap./ Mosk. gos. ped. in-ta im. V. I. Lenina", no. 146, 1960, 25 - 40)

TEXT: It was established that di- and triguanidine phosphates are effective corrosion inhibitors in neutral and weakly acid media and also inhibit atmospheric corrosion. The protective effect of phosphates of organic bases may be explained by the joint effect of phosphate ions and organic bases developing due to the hydrolysis of phosphate salts.

[Abstracter's note: Complete translation.]

Card 1/1

188310

25077

S/081/61/000/010/010/029

B117/B207

AUTHORS: Zak, E. G., Baskov, S. D.

TITLE: The use of urea as inhibitor of atmospheric corrosion

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 1961, 288, abstract  
104222 (10I222). ("Uch. zap. Mosk. gos. ped. in-ta im.  
V. I. Lenina", no. 146, 1960, 154-158)

TEXT: Survey. The protective effect of the urea -  $\text{NaNO}_2$  mixture is  
stated to be due to the joint action of nitrite ions and hydrolysis  
products of urea. 11 references are listed. [Abstracter's note:  
Complete translation.]

Card 1/1

SMIRNOV, K.M.; BAKULIN, S.A.; GOLOVINA, L.L.; ZAK, E.Ya.; KOCAN, S.D.

Effect of competitive athletics on gas exchange, pulse rate, arterial pressure and work capacity in humans. *Fiziol.shur.* 45 no.3:289-294 '59. (MIRA 12:11)

1. From the Postgraduate Medical Institute, Leningrad, and the Central Institute of Physical Culture, Moscow.

(ATHLETICS,

blood pressure, pulse rate, resp. & work capacity  
in athletes (Rus))

(BLOOD PRESSURE,

in athletes (Rus ))

(RESPIRATION,

same)

(WORKING,

capacity in athletes (Rus))

(PULSE,

in athletes (Rus))



ZAK, F.

Improvement of the quality of Edam cheese in bricks and causes of some of the shortcomings. (Supplement) p. 1. (PRUMYSL POTRAVIN, Vol. 7, No. 4, 1956, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (MEAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

ZAK, F.

ZAK, F. The national exposition of soft cheeses. p. 380. Vol. 7, no. 6,  
1956. PRUMYSL POTRAVIN. Praha, Czechoslovakia.

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4--April 1957

NEUGEBAUEROVA, L. ; KOTASEK, A.; ZAK.F.

Listeriosis of the mother and fetus. Cesk. gynek. 29 no.4:  
266-270 My'64

1. II. det. klin. fakulty det. lek. KU [Karlovy university]  
v Praze (prednosta: prof. dr. J.Houstek, DrSc.); a I. gyn.-  
por. klin. fak. vseob. lek. KU [Karlovy university] v Praze  
(prednosta: prof. dr. K.Klaus, DrSc.)

MALEK, P.; KOLC, J.; ZASTAVA, Vl.; ZAK, F.; PELESKA, B.

Fixation of tetracycline antibiotics in the focus of myocardial infarct.  
Cas. lek. cesk. 101 no.32/33:981-984 17 Ag '62.

1. Ustav klinicke a experimentalni chirurgie v Praze, reditel prof.  
dr. B. Spacek. — II. patologickoanatomicky ustav KU v Praze, prednosta  
prof. dr. V. Jedlicka.

(TETRACYCLINE)

(MYOCARDIAL INFARCT)

2 A K, F.  
KABELKA, M.; KAFKA, V.; KLEINT, Z.; ZAK, F.

Primary localized tumors of the pleura (mesotheliomas) in childhood; report of 3 cases. Cesk. pediat. 11 no.12:881-887 Dec 56.

1. Klinika Pediatricke Chirurgie KU v Praze, prednosta doc. Dr. V. Kafka. II. Chirurgicka Klinika, Prednosta Akademik J. Divis. II. Pathologicko-Anatomicky ustav KU v Praze, prednosta prof. Dr. V. Jeklicka.

(PLEURA, neoplasms  
mesothelioma, in child. (Cs))  
(MESOTHELIOMA, case reports  
pleura, in child. (Cs))

KLEINT, Z.; KAFKA, V.; MATEJOVSKY, M.; VLCEK, K.; ZAK, F.

Endobronchial sarcoma in three-year-old child. Cesk. pediat.  
11 no.12:895-900 Dec 56.

1. II. Chirurgická klinika, předn. akademik Jiri Divis.-Klinika  
Pediatrické Chirurgie, Předn. Doc. P. V. Kafka.-Klinika Detské  
Otorhinolaryngologie KU v Praze, předn. doc. Dr. J. Chvojka.  
-Detské Oddelení o nemocnice v Klatovech, předn. prim. Dr. K. Vlcek  
-II. ústav Protopathologické Anatomie KU, předn. prof. Dr.  
V. Jedlicka.

(BRONCHI, neoplasms

endobronchial sarcoma in child, surg. (Cz))

DIVIS, Jiri; ZAK, Frantisek

Fibrous leiomyoma of the lungs in a child. Rozhl. chir. 35 no.9:531-537 Aug 56.

I. z II. chirurgické kliniky (predn. akad. J. Divis). z II. patn. anat. ustavu (predn. prof. Dr V. Jedlicka)  
(LEIOMYOMA, case reports  
lungs, in child (Cz))  
(LUNG NEOPLASMS, in inf. & child  
leiomyoma (Cz))

KOCVARA, S.; HAHN, M.; CERVINKA, F.; ZAK, F.; HATALA, M.

Bacteriological examination in chronic prostatitis. Rozhl.  
chir. 42 no.5:321-326 My '63.

1. Ustav klinicke a experimentalni chirurgie v Praze, reditel  
prof. dr. B. Spacek, DrSc. II patologickoanatomicky ustav  
fakulty vseobecneho lekarstvi KU v Praze, prednosta prof. dr.  
V. Jedlicka.

(PROSTATITIS) (STAPH INFECTIONS)  
(STREPTOCOCCAL INFECTIONS)  
(STREPTOCOCCUS FAECALIS)



MALEK, P.; ROKOS, J.; KOJECKY, Z.; KOLC, J.; PROCHAZKA, P.; ZAK, F.

The special role of tetracycline antibiotics in the prevention and therapy of acute pancreatitis. Rozhl. chir. 42 no.3:174-180 Mr '63.

1. Ustav klinické a experimentální chirurgie v Praze, reditel prof. dr. B. Spacek DrSc. II vnitřní klinika lékařské fakulty PU v Olomouci Biologický ústav CSAV v Praze, reditel akademik I. Malek. II patologickoanatomický ústav lek. fak. KU v Praze, přednosta prof. dr. V. Jedlička.

(PANCREATITIS) (TETRACYCLINE) (LIPASE)  
(ENZYME INHIBITORS) (CHLORTETRACYCLINE)

MALEK, P.; ROKOS, J.; KOJECKY, Z.; KOLC, J.; PRCHAZKA, P.; ZAK, F.

The special role of tetracycline antibiotics in the prevention and therapy of acute pancreatitis. Rozhl. chir. 42 no.3:174-180 Mr '63.

1. Ustav klinické a experimentální chirurgie v Praze, reditel prof. dr. B. Spacek DrSc. II vnitřní klinika lékařské fakulty PU v Olomouci Biologický ústav CSAV v Praze, reditel akademik I. Malek. II patologickoanatomický ústav lek. fak. KU v Praze, přednosta prof. dr. V. Jedlicka.

(PANCREATITIS) (TETRACYCLINE) (LIPASE)  
(ENZYME INHIBITORS) (CHLORTETRACYCLINE)

POIAK, E.; LEVINSKY, L.; JEDLIČKA, J.; JEDLIČKA, V.; ZAK, F.

Operative closure of congenital esophagobronchial fistula in a woman with congenital pulmonary cysts & multiglandular insufficiency: nanosomia & geroderma produced by anovarium. Rozhl. chir. 36 no.7: 454-464 July 57.

1. Chirurgická klinika hygienické fakulty (prof. Dr. Eberich Polak), plicní klinika (prof. Dr. Jaroslav Jedlička), II, patologicko-anatomický ústav (prof. Dr. Václav Jedlička) Karlovy university v Praze.

(ESOPHAGUS, fistula

congen. esophagobronchial fistula with congen. pulm. cysts and nanosomia & geroderma caused by anovarium, surg. (Cz))

(BRONCHI, fistula

none)

(LUNGS, cysts

congen. with congen. esophagobronchial fistula & nanosomia & geroderma caused by anovarium, surg. (Cz))

(OVARIES, abnormal.

absence, causing nanosomia & geroderma, with congen. esophagobronchial fistula & congen. pulm. cysts surg. (Cz))

EXCERPTA MEDICA Sec 9 Vol 13/2 Surgery Feb 59

1103. MORPHOLOGICAL CHANGES IN THE MYOCARDIUM AFTER DEFIBRILLATION - Morfologické změny v myokardu po defibrilaci - Žák F. and Peleška B. II. Pathol.-Anat., Ústav KU; Ústav Klin. Exp. Chir., Praha - ROZHL. CHIR. 1957, 36/11 (727-730)

In experiments on dogs electrical defibrillation discharges were used with a potential of 2-3 kv. The discharges were applied transthoracically without an open chest and by direct application of the electrodes over the heart. The changes are described and were in general only slight. The most sensitive tissue to damage was the auricular appendage. Electrical defibrillation was applied only after 5-15 min. of fibrillation. The changes produced by defibrillation after a short period of fibrillation were not of such an extent as to significantly damage cardiac function. Myocardial damage increased with the duration of ventricular fibrillation and the frequency of defibrillatory discharges necessary to interrupt fibrillation.

ZNA, 18.

MALEK, P.; KOLC, J.; ZAK, Fr.

Possibility of specific blocking of the lymphatic system; pathogenesis & experimental treatment of tetanus. Cas. lek. cesk. 96 no.43:1369-1375 25 Oct 57.

1. Ustav klinické a experimentální chirurgie, reditel doc. Dr B. Spacek.
11. pathologickoanatomický ústav lékařské fakulty Karlovy university v Praze, prednosta prof. Dr. V. Jedlicka. K sedmdesatym narozeninam akademika A. Jiraska.

(TETANUS, exper.

eff. of specific blocking of lymphatic system with antitoxin (Cs))

(LYMPHATIC SYSTEM, in var. dis.

exper. blocking with antitoxin in exper. tetanus (Cs))

ZAK, F.; HERDEGEN, L.; KLEINT, Z.

Granular endobronchial pseudotumor, so-called Abrikosov myoblastic myoma, in a 14 year old boy. Cesk. pediat. 14 no.1:22-26 5 Jan 59.

1. II. patologicko-anatomicky ustav, prednosta prof. dr. V. Jedlicka  
IV. detska interni klinika, prednosta prof. dr. F. Blazek, Klinika detske  
chirurgie ped. fak., prednosta doc. dr. V. Kafka, II. chirurgicka klin-  
ika, prednosta akad. J. Divis. F. Z., II. pat.-anat. ustav, U Nemocnice  
4, Praha 2.

(BRONCHI, neoplasma

myoblastoma in adolescent boy, case report (Cz))

(MYOBLASTOMA, case reports

bronchial in adolescent boy (Cz))

MALEK, P.; KOLC, J.; ZAK, F.

Principles of two-stage lymphography. Cas. lek. cesk. 98 no.8:225-231  
20 Feb 59.

1. Ustav klinicke a experimentalni chirurgie, Praha. II. patologicko-  
anatomicky ustav lekarske fakulty KU, Praha. P. M., Praha-Krc, Budejo-  
vicka 800.

(LYMPHATIC SYSTEM, radiography,  
two-stage lymphography in animals (C:))

MALEK, P.; KOLC, J.; ZAK, F.; PAVLIK, F.

The distribution of tetracycline antibiotics in the tissue of the kidneys in physiological and some pathological conditions. Cas.lek. cesk 101 no.7:193-198 16 F '62.

1. Ustav klinické a experimentální chirurgie, Praha-Krc, reditel prof. dr. B. Spacek. II. patologickoanatomický ústav KU v Praze, prednosta prof. dr. V. Jedlicka.

(TETRACYCLINE metabolism)  
(KIDNEY metabolism)  
(KIDNEY DISEASES metabolism)



LIHOTKA, J.; DANCIV, I.; ZAK, F.; FALNICEK, L.

On the treatment of breast cancer metastasizing to the axillary lymph glands. Sbor. lek. 66 no.11:332-335 N '64.

1. II. chirurgická klinika (prednosta prof. dr. J. Lhotka, CSc.), II. patologickoanatomický ústav (prednosta prof. dr. V. Jedlicka, DrSc.) a radiologická klinika (prednosta prof. dr. V. Svab, DrSc.) fakulty všeobecného lékařství Univerzity Karlovy v Praze.

DYBAL, Kazimierz; JANICKI, Jerzy; ZAK, Franciszek

New trends in the design of installations for thermal treatment of metallurgical products. Problemy proj hut maszyn 10 no.11:345-349 N '62.

1. Biprohut, Gliwice.

ZAK, Frantisek

Morphological changes in the lymph nodes following use of some  
drugs in examination of the lymphatic system, Acta Univ. Carol.  
[med.] (Praha) 9 no.3:191-223 '63

1. II.patologickoanatomicky ustav fakulty vseobecneho lekarstvi  
University Karlovy v Praze; prednosta: MUDr. V.Jedlicka, DrSc .

ZAK, F.; MALEK, P.; ZASTAVA, V.; KOIC, J.

On the problem of prolonged retention of tetracycline antibiotics in the body in pathological states. Cas. lek. cesk. 102 no.32/33:902-906 16 Ag '63.

1. II. patologickoanatomický ústav fakulty všeobecného lékařství  
KU v Praze, přednosta prof. dr. V. Jedlička Ústav klinické  
a experimentální chirurgie v Praze, reditel prof. dr. B. Spacek.  
(TETRACYCLINE) (CALCIFICATION) (CALCULI)  
(MUSCLES) (MYOCARDIUM)

MALEK, P.; KOLC, J.; ZAK, F.

Distribution of tetracycline antibiotics in the body in shock states. Kozhl. chir. 42 no.3:187-191 Mr '63.

1. Ustav klinické a experimentální chirurgie v Praze, reditel prof. dr. B. Spacek, DrSc. II patologickoanatomický ústav fakulty všeobecného lékařství KU v Praze, přednosta prof. dr. V. Jedlicka.

(TETRACYCLINE) (SHOCK, TRAUMATIC) (MICE)  
(RABBITS) (DOGS) (SHOCK, HEMORRHAGIC)  
(CHLORTETRACYCLINE) (OXYTETRACYCLINE)

MALEK, P.; ZASTAVA, Vl.; KOLC, J.; ZAK, Fr.

On the possible diagnosis of malignant tumors by means of tetracycline antibiotics. Cas. lek. cewk. 102 no.1:16-20 4 Ja '63.

1. Ustav klinicke a experimentalni chirurgie v Praze, reditel prof.  
dr. B. Spacek, DrSc. — II patologickoanatomicky ustav fakulty vseobecneho  
lekarstvi KU v Praze, prednosta prof. dr. V. Jedlicka, DrSc.  
(NEOPLASMS) (TETRACYCLINE) (DIAGNOSIS)

CZECHOSLOVAKIA

ZAK, F., MALEK, P., BASTAVA, V., and KOLO, J., Second Institute of Pathological Anatomy (II. patologickoanatomický ústav), Faculty of General Medicine (Fakulta všeobecného lékařství), Charles University, Prague, (Prof. Dr V. JEDLIČKA, director) and Institute of Clinical and Experimental Surgery (ústav klinické a experimentální chirurgie), Prague, (Prof. Dr B. SPÁČEK, director) [individual affiliations cannot be determined].

"Prolonged Persistence of Tetracycline Antibiotics in the Organism under Pathological Conditions"

Prague, Časopis Lékařů Českyh, Vol CII, No 32/33, 16 August 1963, pp 902-906.

Abstract [Authors' English summary, modified]: Discussed is the prolonged fixation of tetracycline antibiotics (TA) under pathological conditions. Under physiological conditions the TA are retained only in biologically active bone marrow. Under pathological conditions prolonged fluorescence is found also in tissues liable to calcification. A very intensive trapping and retention occurs in the striated skeletal and cardiac muscles. After discussing various specific cases the authors conclude that the fixation is caused by the formation of stable chelate TA complexes in tissues with bivalent cations, particularly cations of calcium. This phenomenon is discussed from the morphological viewpoint. Forty-two references, including 25 Czech.

1/1

OLSANSKY, Cestmir; VYCHYTOVA, Hana; ZAK, Frantisek; CHLUP, Zdenek

Effect of milk acidity and its standardization on the  
Gruyere cheese quality; a cheese maker's prognosis. Pt.5.  
Prum potravin 14 no.2:85-89 F '63.

1. Vyzkumny ustav mlekarensky, Praha, pracoviste Zeletava  
(for Olsansky). 2. Lacrum, n.p., Brno, zavod Zeletava  
(for Vychytova). 3. Vychodoceske mlekarny, n.p., Pardubice  
(for Zak). 4. Vychodoceske mlekarny, n.p., zavod Kruh u  
Jilemnice (for Chlu:).



ELEFANT, E.; JELINEK, J.; HOLANOVA, L.; ZAK, F.

On the etiology of anuria in newborn infants. Cesk. pediat. 17 no.9:  
815-818 S '62.

1. III. detska klinika Detske fakultni nemocnice v Praze, prof. dr.  
O. Vychytil II. patologickoanatomicky ustav University Karlovy v  
Praze, prednosta prof. dr. V. Jedlicka.  
(INFANT NEWBORN DISEASES) (ANURIA)

KOCVARA, Svatopluk; MALEK, Prokop; ZAK, Frantisek; PAVLIK, Frantisek

The protective effect of chlortetracycline on the hypoxic kidney.  
Rozhl. chir. 41 no.7:458-463 J1 '62.

1. Ustav klinické a experimentální chirurgie, Praha, reditel prof.  
dr. B. Spacek. II. patologicko-anatomický ústav University Karlovy,  
Praha, ved. prof. dr. V. Jedlicka.

(KIDNEY blood supply)	(ISCHEMIA exper)
(CHLORTETRACYCLINE pharmacol)	(RENAL ARTERY surg)

ZAK, FR.

CZECHOSLOVAKIA

F. HALEK, VI. ZACHARA, J. KOLC and Z. KOK, Institute for Clinical and Experimental Surgery (Ustav klinicke a experimentálni chirurgie) Chief (reditel) Prof. Dr. J. STACHEK, DrSc; and Second Department of Pathological Anatomy of Medical Faculty, Charles University (II. patologickeoanatomicky ustav fakulty vseobecneho lekarsvi KU/Karlovy University) Head (Prednosta) Prof. Dr. V. JEDLIČKA, DrSc; Prague

"Regarding the Possibility of Diagnosing Malignant Tumors with the Tetracycline Antibiotics."

Prague, Casopis Lekaru Ceskych, Vol 102, No 1, 4 Jan 1963; pp 16-20.

Abstract [English summary modified]: After reviewing topic, authors summarize their results (no data presented) which indicate that tetracyclines do not selectively accumulate in tumors to permit e.g. diagnosis of gastric tumors by fluorescence microscopy of irrigation smear; tetracyclines accumulate in necrotic tissues and in those undergoing regressive changes, primarily in histiocytes whether cause of regression-necrosis be tumorous or not. Only in murine ascites tumor did authors find fluorescence of actual tumor cell. Many human tissues

2/1

LHOTKA, J.; BOREK, Z.; CHMEL, K.; ZAK, F.

Contribution to the problem of reticulum-cell sarcomas of the mediastinum. Rozhl. chir. 41 no.5:336-341 My '62.

1. II. chirurgická klinika FVL University Karlovy v Praze, predn.  
prof. dr. J.Lhotka II. patol.-anatom. ustav University Karlovy v Praze,  
prednosta prof. dr. V. Jedlicka.  
(SARCOMA RETICULUM CELL surg)  
(MEDIASTINUM neopl)

KOCVARA, Svatopluk; ZAK, Frantisek

Replacement of the ureter with prostheses of plastic materials.  
Rozhl. chir. 41 no.7:441-449 J1 '62.

1. Ustav klinicke a experimentalni chirurgie, Praha, red. prof. dr.  
B. Spacek. — II. patolo gicko-anatomicky ustav fakulty vseobecneho  
lekarstvi University Karlovy, Praha, ved. prof. dr. V. Jedlicka.  
(URETER surgery)

ZAK, L.A., CHIBISOV, V.V., NAGORNYI, N.M., ORLOVA, I.A., red., KORKINA, A.I., tekhn. red.

(Test programs for the BESM-2 computer) Testovye programmy dlia mashiny BESM-2.  
Moscow, Computing Center AN SSSR., 1961 24p.

SPURNY, Zdenek; ZAMECNIK, Jiri; HRUSKA, Jiri

Chemical dosimeter in ionizing radiotherapy. Possibility of use. Cesk.  
rentg. 13 no.3:188-191 June 59.

1. Ustav jaderného výzkumu CSAV, doz. odd., vedoucí prof. dr. P. Behounek  
Onkologický ústav v Praze, ředitel MUDr. F. Vadura. Z.S., Praha 8, Onkolog.  
ústav Praha 8, Na Truhláře 100.

(RADIOTHERAPY, appar. & instruments  
dosimeter, chem. (Cz))

ZAK, G.		111	
<p><i>Pharmacopoeic examinations on heart and digestive tract of <i>Lepidoptera</i> kind. I. Effects of alkaloids, glucosides and some other agents. A. Frohlich and G. Zak. Magyar Biol. Kutató Intézet Munkái 9: 267-73 (1934).—Scrophanthin-g (1:600) stopped heart activity. Crystal violet (1:100,000, 1:200,000) started peristaltic movement but stopped the heart even at 1:10<sup>4</sup>. Camphor (1:10,000) again started the heart but halted peristalsis. Physostigmine salicylate (1:500) decreased the heart rate. Acetylcholine had almost no effect on the heart. Pilocarpine and physostigmine contracted (1:300) the intestinal system, but camphor overcame this contraction, as well as that caused by acetylcholine (1:10,000, 1:100,000). Adrenaline stopped peristalsis. Chloroform (1:1000) had no effect, and papaverine (1:100) overcame the effects of pilocarpine. II. Effects of alkali and alkaline earth chlorides and magnesium and oxalate ions. Ibid. 275-80.—KCl and NH<sub>4</sub>Cl decreased the tone of heart and intestinal movements. RbCl and CsCl caused arrhythmia and stopped peristalsis. NaCl, LiCl and CaCl<sub>2</sub> had slighter effects. FeCl<sub>3</sub> caused stronger arrhythmia. BaCl<sub>2</sub> stopped the heart in 30-40 min. and first activated and then stopped peristalsis. MgCl<sub>2</sub> had the same effect in 110 min. Oxalate had for 230 min. no disturbing effects, then stopped the heart in diastole and halted peristalsis. S. S. de Finálv</i></p>			
<p>ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>			



MALYAROV, V.; ZAK, G.; AGAFONOV, Ye.

Powder metallurgy. Prom.koop. no.6:19-22 Ja'55. (MLBA 8:11)

1. Glavnyy inzhener arteli "8-ya mekhanicheskaya" Nauchno-issledovatel'skogo instituta mashinostroyeniya (for Malyarov) 2. Nachal'nik eksperimental'nogo tsakha (for Zak) 3. Nachal'nik tsakha poroshkovoy metallurgii (for Agafonov)

(Powder metallurgy)

COUNTRY : USSR  
CATEGORY : Plant Disposition - 7-1  
ABS. JOUR. : RZBiol., No. 19 1958, No. 87309  
AUTHOR : Zak, G. A.  
INST. : Kuybyshev Institute of Land-Reclamation  
TITLE : Some properties of plant assembly  
ORIG. PUB. : Izv. Kuybyshevsk. inzh.-melior. in-ta, 1955,  
11, 105-119  
ABSTRACT : No abstract.

ZAK, G. A.

GLIYAPOVSKIY, N.F., and ZAK, G. A. "On the Question of the Physiological Basis of Resistance of Spring Wheat to Punt (*Tilletia tritici* Wint.)," Nauchno-Selovershchinskiy Zhurnal, vol. 7, no. 5-6, 1930 pp. 379-386. 20 J82

So: S'ra S1-90 53, 15 Dec 1953

BC

Hardening of plants in dry soil under irrigation conditions. I. Effect of hardening on growth and formative processes. N. S. Pavlov and G. A. Eak. II. Effect on photosynthesis and yield. N. S. Pavlov (Odesk. and Acad. Sci. U.S.S.R., 1958, 12, 49-53, 65-68).—I. Drought-hardening of summer wheat consistently lowers the growth rate to extents which vary with the period of growth at which hardening takes place. II. Hardened plants showed diminished photosynthetic activity and yield, the effect being greatest when hardening occurs in the early stages of growth. A. G. P.

ZAK, G. A.

ZAK, G. A. "On the Fundamentals of Phytopathological Characteristics of Varieties and on the Significance of Artificial Inoculation in Selection," Doklady Vsesoiuznoi Akademii Sel'skokhoziaistvennykh Nauk imeni V. I. Lenina, no. 6, 1940, pp. 12-14. 20 Akl

So: Sira - Si - 90 - 53, 15 December 1953

The effect of mineral fertilizers on the formation of  
sedimentary ore and the yield of spring wheat. H. I.  
Pitmanov and G. A. Zak. *Polish Journal of Agronomy, Akad. Rol-  
niko-Akos. Nauk*, 1940, No. 8, 17-21; *Herbage Abstracts*  
11, No. 3, 86(1941). S. Solovchik

ASH-51A METALLURGICAL LITERATURE CLASSIFICATION

*OK*

*110*

ALTERATIONS IN THE ANATOMICAL STRUCTURE OF MILLET LEAF IN  
RELATION TO CONDITIONS OF MINERAL NUTRITION AND IRRIGATION.  
N. S. PETKOV, G. A. ZAK AND V. L. BROVCHINA. *Doklady  
Vysshego Akad. Nauch.-Khoz. Nash 1960, No. 6, 18-19;  
Harvard Abstracts 11, No. 3, 85(1941). S. Solov'ichik*

ATG 55.4 DETAILING LITERATURE CLASSIFICATION

8A.

Bacteria breaking down aluminosilicates. V. G. Aleksandrov and G. A. Zak. *Mikrobiologiya*, 1950, 19, 97-104. By culture on silicate-agar media with added insol aluminosilicates two bacterial species capable of breaking down aluminosilicates were isolated. *Bacillus mucilaginosus*, subsp. *silicus* and *B. megatherium*, No. 1147. During breakdown of aluminosilicates K is liberated, and in soil becomes available for vegetable use. Hence addition of these bacterial cultures to soil at time of sowing has increased the yield of barley and maize. D. H. SMYTH.

Kyrgyzstan Agric. Inst., Dept. Agrochemistry  
and Dept. Plant Physiol.



1. ZAK, G. A.
2. USSR (600)
4. Agriculture
7. Tree and field shelter belt diseases and insect pests. Kuib'yshov, Oblastnoe izdatel'stvo, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified

ZAK, Grigoriy Gavrilovich; RUBINSHTEYN, Lev Isifovich; GORANSKIY,  
G.K., kand. tekhn. nauk, red.; BARABANOVA, Ye., red. izd.-  
va; VOLOKHANOVICH, I., tekhn. red.

[Machinery designer's handbook] Spravochnik konstruktora  
(mashinostroitelia) — Minsk, Izd-vo Akad. nauk BSSR, 1963.

567 p.

(MIRA 16:5)

(Machinery—Design and construction)

ZAK, Genrikh Lazarevich, kand.tekhn.nauk; KHASKIN, S.A., red.; OTOCHEVA,  
M.A., red.izd-va; SHLIKHT, A.A., tekhn.red.

[Self-purification of water reservoirs; principles underlying  
the regulation of hydrological and sanitary-engineering calcula-  
tions.] Samoochishchanie vodoemov; osnovy ratsionalizatsii gidro-  
logicheskikh i sanitarno-tekhnicheskikh raschetov. Moskva, izd-vo  
M-va kommun.khoz.RSFSR, 1960. 159. (MIRA 13:5)  
(Water--Purification)

ZAK, G.I. inzh.

Suspension bridge made of prestressed reinforced concrete.  
Transp. stroi. 9 no. 4:50-51 Ap '59. (MIRA 12:5)  
(Belgium—Bridges, Concrete)

B'YAZHI, P. [Biaggi, P.]; LEYCHIK, V.M. [translator]; ZAK, G.I. [translator];  
DMITRIYEVA, L.M., red.izd-va; BERKSLAVSKAYA, L.Sh., tekhn.red.;  
KOROVENKOVA, Z.A., tekhn.red.

[Conveyers with rubber belts] Konveiery s rezinovoi lentoi. Moskva,  
Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1959. 293 p.  
Translated from the French. (MIRA 13:12)  
(Conveying machinery)

ZAX, G.I., inwh.

Underpass constructed on the nonintersected loop in Berlin.  
(from "Die Bautechnik", no.5, 1958) Transp.stroi. 9 no.3:55-  
56 Hr '59. (MIRA 12:4)

(Berlin-Underpasses)

BODRIKOV, I.M., ed.; GOLOVANOV, A.L., redaktor; BEGICHEV, V.G., inzhener;  
BEHESLAVSKIY, Ya.M., inzhener; ZAK, G.I., inzhener; SOLOGUB, A.D., inzhener;  
TANTSMAN, A.I., inzhener; TIKHONOVA, E.V., inzhener.

[Progressive technology in the building materials industry of the Ministry  
of Railroad Transportation] Peredovaya tekhnologiya v promyshlennosti  
stroitel'nykh materialov MPS. Moskva, Gos. transp. zhel-dor. izd-vo, 1952.  
62 p. (MLRA 6:5)

(Building materials)

ZAK, G. I.

Vodostoki. Osnovy ratsional'nogo proektirovaniia i rascheta (Kino'fe. Principles of efficient planning and computation). 2-o izd. Moskva, Izd-vo M-vn kommun. khoz-va RSFSR, 1952. 208 p.

SO: Monthly List of Russian Accessions, Vol. 6, No. 3, June 1953



ZAF, G.L., kandidat tekhnicheskikh nauk; KOGAN, A.S., kandidat tekhnicheskikh nauk, dotsent, redaktor; SOXOL'SKIY, I.F., redaktor; GUROV, O.A., tekhnicheskiiy redaktor

[Calculation tables for sewer main of various shapes] Tablitsy dlia rascheta kanalizatsionnykh kollektorov razlichnykh profilov. Moskva, Izd-vo Ministerstva kommunal'nogo khoziaistva RSFSR, 1953. 213 p. [Microfilm] (MLRA 7:10)  
(Sewerage)

ZAK, G.L.

Determination of the runoff time for rain water. Vod. i san. tekhn.  
no.11:32-33 W '61. (MIRA 15:6)  
(Runoff)

ZAK, G. L.

Homograms for calculating water flow. Vod. 1 san.tekh.no.4:20-23  
Jl '55. (MLRA 8:12)

(Hydraulics--Tables, calculations, etc.)

ZAK, G.M.; AGAFONOV, Ye.A.; MALYAROV, V.Z.; TIMOKHINA, V., redaktor;  
~~ATAPOV, M.~~, tekhnicheskii redaktor

[Metalceramics in the manufacture of metal parts for consumer products] Metallokeramika v proizvodstve metallicheskih izdelii shirokogo potrebleniia. Moskva, Vses. kooperativnoe izd-vo, 1956.  
53 p. (MIRA 10:2)

(Powder metallurgy)

ZAK, G.Ye. (Editor)

"Physics of Clouds," Trudy Tsentral'noy Aerologicheskoy Observatii (Works of the Central Aerological Observatory), No 7, 1952, Leningrad (Editor: Ye. G. Zak).

"APPROVED FOR RELEASE: 03/15/2001

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APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001963510003-3"

POL/43-59-11/12-8/33

18(5)

AUTHOR: Zak, Hanna, Master of Engineering

TITLE: The Application of Vacuum in Metallurgy

PERIODICAL: Wiadomości hutnicze, 1959, Nr 11-12, pp 355-360  
(Poland)

ABSTRACT: The article discusses the advantages of vacuum degasi-  
fying of metals in the liquid state and, in general  
terms, the structure and operation of induction and  
arc vacuum furnaces. The vacuum method is developing  
and spreading rapidly in all industrialized countries  
in view of the fact that it gives higher quality pro-  
ducts. The amount of gas contained in cold metal is  
very small considering its relationship by weight to  
the metal. But if it were separated from the compounds  
(mainly oxygen and nitrogen) which it forms, it would  
be found to be of about the same volume (at normal  
temperature and pressure) as the metal in which it is  
contained. Such large quantities of gas obviously have  
a deteriorating influence on metal qualities. Hence ✓

Card 1/4

POI/43-59-11/12-3/33

### The Application of Vacuum in Metallurgy

the imperative need to reduce gas content, especially in metals destined for special purposes. Known since the 19th century, the vacuum process was first used on an industrial scale during the WW 1 by the German firm Heraeus of Hanau and has developed rapidly since 1950 with the introduction of high output vacuum pumps. The application of vacuum techniques during melting and casting gives the following advantages: the gas content is much lower; the content of non-metallic bodies is reduced by eliminating direct contact with air and slag; ingots are healthy and compact since no gas is given off during cooling, thus eliminating bubbles and blisters; There is less waste of metal and more accuracy in obtaining the exact chemical composition required; finally, dangerous impurities are removed by evaporation (e.g. copper refining to remove lead, zinc, tin, etc.). There follows a description of induction and arc furnaces at present in common

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Card 2/4



POB/43-59-11/12-8/33

### The Application of Vacuum in Metallurgy

use. (Figs 1-4). Arc furnaces have the following advantages over induction furnaces: no refractory materials are needed; internal segregation and pores are at a minimum since the ingot cools gradually; larger ingots may be obtained; and finally production costs are lower. But modern industry often demands degasifying of much larger quantities of metal than can be held in these vacuum furnaces. This problem is solved by the use of vacuum chambers which permit the degasifying of steel processed in normal furnaces. There follows a general description of the workings of vacuum chambers (see Figs 5-10). The author concludes by stating that one of the chief advantages of the vacuum process is the reduction of hydrogen content, often up to 60%. The metal thus obtained has much less tendency to flaking, has better mechanical properties and is much better suited to plastic treatment. Though the costs involved are significant, the advantages are


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POL/43-59-11/12-8/33

The Application of Vacuum in Metallurgy

so great, that for general purposes it is profitable to process in vacuum chambers forging ingots of over 100 tons. Induction and arc vacuum furnaces on the other hand, are best suited for the production of refractory alloys and steel for the airplane industry and for roller bearings. There are 10 diagrams and 9 references, 2 of which are Polish, 1 Soviet, 1 German and 5 English.



Card 4/4

POL/39-25-11-10/26

18(5)  
AUTHOR:

Zak, H., and Paczuła, B., Mechanical Engineers

TITLE:

Theoretical and Practical Principles of Production of Low-Carbon Ferrochrome (Teoretyczne i praktyczne podstawy produkcji niskowęglowego żelazochromu)

PERIODICAL:

Hutnik, 1958, Vol 25, Nr 11-12, pp 481-486 (Poland)

ABSTRACT:

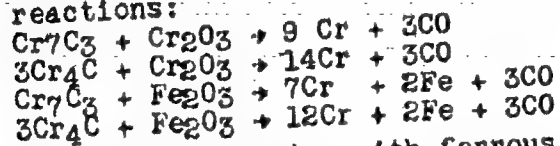
Ferrochromes are used for adding chrome to steels in order to improve their resistance to corrosion, acids and high temperatures. Steels, the carbon content of which does not exceed 1% of the chrome content have the highest resistance to corrosion. The methods used at present for the production of low-carbon ferrochrome in Poland and abroad require very high temperatures, are complicated and costly. The Institute of Iron Metallurgy, Gliwice, has been studying, since 1956, methods for the production of low-carbon ferrochrome from a mixture of high-carbon ferrochrome and metallic oxides heated in vacuum below the melting point. The theoretical considerations and laboratory research were based

Card 1/3

POL/39-25-11-10/26

## Theoretical and Practical Principles of Production of Low-Carbon Ferrochrome

on the use of a ferrochrome with about 60% Cr and 3 to 8% C. At temperatures above 1000°C, the alloy contains double chrome and ferrous oxides, the heats of formation and the entropies of which are not known. The thermodynamic calculations were made for the following reactions:



The decarbonization with ferrous oxides takes place at lower temperatures, but reduces the chrome content in the final product. The decarbonization with chrome oxides enriches the final product with chrome. The laboratory research has shown that heating a mixture of high-carbon ferrochrome and chrome oxide in a vacuum chamber can produce at a pressure of about 0.1 mm Hg and a temperature of 1300°C a ferrochrome with 0.02% carbon content. The vacuum process is uncomplicated ✓

Card 2/3

POL/89-25-11-10/26

Theoretical and Practical Principles of Production of Low-Carbon  
Ferrochrome

and relatively cheap and gives a big yield. Its product would help to improve the resistance of chrome steel to acids without adding titanium. An industrial application of this process would result in economy of raw materials and better product. There are 5 tables, 2 diagrams, 2 graphs and 11 references, 4 of which are Polish, 3 Soviet, 1 German and 3 English.

ASSOCIATION: IMŻ - Gliwice (Institute of Iron Metallurgy - Gliwice)

Card 3/3



ZAK, Hanna, dr inz.

Development prospects for vacuum degassing methods of  
steel in Polish and foreign steelworks. Wlad hut 15  
[i.e. 20] no. 2: 42-45 P '64.

ZAK, Hanna, mgr inz.

Application of the vacuum in metallurgy. Wiad hut 15  
no.11/12:355-360 N-D '59.

Dietr: 4E20

3  
 Nitriding of ferrochrome. H. Zak and Z. Kulicki  
 (Inst. Metalurgia, Zabrze, Gdansk, Poland). *Prace Inst.  
 Hutnic.* 12, No. 1, 9-10 (1960).—The expts. on nitriding of  
 ferrochrome briquets prepd. by sintering in a vacuum furnace  
 were described. The initial chem. compn. of ferrochrome  
 granules was Cr 56.80, Mn 0.15, Al 0.037, Si 0.41, and C  
 3.06%, or Cr 59.30, Si 0.24, Mn 0.16, Al 0.038, and C 2.98%,  
 depending upon the size of the granules; however, as a re-  
 sult of  $Cr_2O_3$  addn., the content of C was reduced to 0.02%  
 in either fraction as detd. in the briquets after the sinter-  
 ing process. The effect of temp., 800-1300°, and time,  
 0.5-3 hrs., on the nitriding process of ferrochrome was  
 examd. In another series of expts. the nitriding of metallic  
 Cr contg. Cr 86-9, Al 0.1-0.5, and C 0.03-0.05% has been  
 examd. The optimum temp. and granule size for nitriding  
 of ferrochrome was 1100° and 0.5 mm., resp. Under these  
 conditions and N pressure in the furnace of 0.65 atm., atm.  
 the N contn. in ferrochrome after 3 hrs. reached 8.5%.  
 Although metallic Cr combined with N more readily under  
 the conditions studied, its use as a charged material for  
 alloying of steel with N should be limited to cases when the  
 low-C ferrochrome was unavailable. W. Tomaszczak

4  
 17JC(TO)  
 1



ZAK, H.

Vacuum decarburization of ferrochroms. H. Zak and B. Paczula, *Prace Inst. Hutniczych* 11, 75-81(1959).—A method of production of Fe-Cr alloy contg. C < 0.07% by vacuum annealing of a solid mixt. consisting of high-C ferrochrome and metal oxides at high temp., was developed. The expts. involved over 100 annealing tests, the variable parameters being: mixt. compn., time and temp. of annealing, grain size of Fe-Cr, and the shape of specimen. The optimum conditions were specified. Grain size of Fe-Cr should be < 0.5 mm. The charge of metal oxides should correspond to the O amt. required for theoretical conversion of all C contained in ferrochrome into CO. The mixt. should be annealed at 1800° and under the pressure of 0.5 mm. Hg., the time being eqptl. established for the given conditions of the process. The evapn. losses of Cr were low and the obtainable product contg. C 0.03% was ready for use in the steel-melting process without any addnl. treatment.

W. Tomaszewski

ZAK, Hanna, dr inz.; KULINSKI, Zdzislaw, mgr inz.

The Ugine-Perrin method as applied to the production of  
ferroalloys. Wiad hut 19 no. 5:111-114 My '63.

ZAK, Hanna

More speed in the development of the application of vacuum  
metallurgy. Przegl techn no.33:4,5 17 Ag '60.

S/137/62/000/003/015/191  
A006/A101

AUTHORS: Zak, H., Kuliński, Z.

TITLE: Decarbonization in a vacuum and nitriding of ferromanganese

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 24, abstract 3V166  
("Prace Inst. hutn.", 1961, v. 13, no. 1, 27-36, Polish; Russian  
and English summaries)

TEXT: A method was developed to obtain Fe-Mn with low C content (about 0.25%) and N content > 3.3% which could act as an alloying admixture in melting low-carbon Cr-Mn steel, containing N<sub>2</sub>. The authors investigated the effects of pressure, temperature, time, and grain size of the initial material on the reaction process of decarbonization and nitriding. Roasting for 3 hours at 1,100°C and pressure < 1 mm Hg of crushed Fe-Mn (< 1 mm) containing 1% C, with addition of about 9% cinder, yields a product containing about 0.25% C. Nitriding of this product yields best results when heated to 900°C at 1 atm pressure; the N content in Fe-Mn is about 5%.

D. Kashayeva

[Abstracter's note: Complete translation]

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ZAK, H.

ZAK, H. Aluminothermic method of casting steel. Biuletyn. p. 42.  
Vol. 21, no. 11, Nov. 1956.  
HUTNIK. Katowice Poland

SOURCE: East European Accessions List (EEAL) LC Vol. 5, No. 6, June 1956

POL/39-25-11-10/26

18(s)  
AUTHOR:

Żak, H., and Paczuła, B., Mechanical Engineers

TITLE:

Theoretical and Practical Principles of Production of Low-Carbon Ferrochrome (Teoretyczne i praktyczne podstawy produkcji niskowęglowego żelazochromu)

PERIODICAL:

Hutnik, 1958, Vol 25, Nr 11-12, pp 481-486 (Poland)

ABSTRACT:

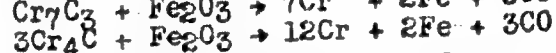
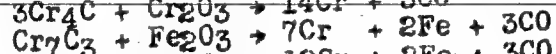
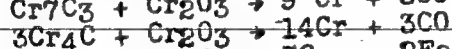
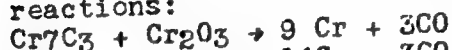
Ferrochromes are used for adding chrome to steels in order to improve their resistance to corrosion, acids and high temperatures. Steels, the carbon content of which does not exceed 1% of the chrome content have the highest resistance to corrosion. The methods used at present for the production of low-carbon ferrochrome in Poland and abroad require very high temperatures, are complicated and costly. The Institute of Iron Metallurgy, Gliwice, has been studying, since 1956, methods for the production of low-carbon ferrochrome from a mixture of high-carbon ferrochrome and metallic oxides heated in vacuum below the melting point. The theoretical considerations and laboratory research were based

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Theoretical and Practical Principles of Production of Low-Carbon Ferrochrome

on the use of a ferrochrome with about 60% Cr and 3 to 8% C. At temperatures above 1000°C, the alloy contains double chrome and ferrous oxides, the heats of formation and the entropies of which are not known. The thermodynamic calculations were made for the following reactions:



The decarbonization with ferrous oxides takes place at lower temperatures, but reduces the chrome content in the final product. The decarbonization with chrome oxides enriches the final product with chrome. The laboratory research has shown that heating a mixture of high-carbon ferrochrome and chrome oxide in a vacuum chamber can produce at a pressure of about 0.1 mm Hg and a temperature of 1300°C a ferrochrome with 0.02% carbon content. The vacuum process is uncomplicated ✓

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Theoretical and Practical Principles of Production of Low-Carbon  
Ferrochrome

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and relatively cheap and gives a big yield. Its product would help to improve the resistance of chrome steel to acids without adding titanium. An industrial application of this process would result in economy of raw materials and better product. There are 5 tables, 2 diagrams, 2 graphs and 11 references, 4 of which are Polish, 3 Soviet, 1 German and 3 English.

ASSOCIATION: IMŻ - Gliwice (Institute of Iron Metallurgy - Gliwice)

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ZAK, Hanna, dr inz.; KULINSKI, Zdzislaw, mgr inz.

Teaming of iron alloys. Wiad hut 18 no.10:295-297 0 '62.

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The technological conditions and the reaction process of  
nitrogen hardening of chromium. Przegl mech 22 no.3:88  
10 F '63.

1. Katedra Metalografii i Obróbki Ciepłej, Akademia Górniczo-  
Hutnicza, Kraków.

ZAK, Hanna, dr. inz.

Vacuum furnaces for melting steel and alloys. Biul inf inst  
metal zel no.2/3:11-15 '63.

1. Institute of Iron Metallurgy, Gliwice.

RADZWICKI, K.; ZAK, H.

Production of vacuum decarbonized and nitrogen hardened ferro-alloys. Biul inf inst metal zel no.1:5-8 '63.

1. Institute of Iron Metallurgy, Gliwice.